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To: Rtk Chem/DC/USEPA/US@EPA, oppt.ncic@epamail.epa.gov  
cc:

Subject: HERTG HPV submission for polybutylene succinic anhydride

HPV Test Plan Submission from the American Chemistry Council Petroleum Additives HERTG - HPV Registration Number

Three documents (1. cover letter, 2. test plan and 3. robust summaries) are attached to this e-mail for the HERTG HPV Polybutylene Succinic Anhydrides group. If you have any questions or comments, please feel free to contact me. Below, my contact information is listed. Thank you very much. Sarah McLallen

Sarah Loftus McLallen  
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(See attached file: Test Plan.zip)



Test Plan.zip

November 26, 2002

By Mail

Christine Todd Whitman, Administrator  
US EPA  
PO Box 1473  
Merrifield, VA 22116

Attn: Chemical Right-to-Know Program – Test Plan Submission from HERTG  
Registration Number

Dear Administrator Whitman:

The American Chemistry Council Petroleum Additives Panel (Panel) Health, Environmental, and Regulatory Task Group (HERTG) submits for review and public comment its test plan report, as well as related robust summaries, for the "*Polybutylene Succinic Anhydrides*" under the Environmental Protection Agency's High Production Volume (HPV) Chemical Challenge Program. The HERTG understands that there will be a 120-day review period for the test plan report and that all comments generated by or provided to EPA will be forwarded to the HERTG for consideration.

The polybutylene succinic anhydrides, which are used as petroleum lubricant additives, are characterized by having structural similarities and limited reactivity, low biological activity, and limited water solubility. Based upon the data reviewed in the attached report, the HERTG concludes that the physicochemical and toxicological properties of the proposed polybutylene succinic anhydrides group are similar and follow a regular pattern as a result of structural similarity. The two chemicals in the polybutylene succinic anhydrides group are as follows:

- 2,5-Furandione, dihydro-, monopolyisobutylene derivs., (CAS #67762-77-0), referred to as "Polyisobutylene succinic anhydride".
- 2,5-Furandione, dihydro-, monopolybutenyl derivs., (CAS #67762-79-2), referred to as "Polybutenyl succinic anhydride".

Briefly, the test plan for the HERTG polybutylene succinic anhydrides includes the following tests and computer modeling:

- Physicochemical - The water solubility of polyisobutylene succinic anhydride (CAS #67762-77-0) will be determined.

- Hydrolysis - The potential for polyisobutylene succinic anhydride (CAS #67762-77-0) to hydrolyze will be characterized. The public and available private literature will be evaluated to determine whether there is sufficient information to adequately characterize the potential hydrolysis rate of polyisobutylene succinic anhydride (CAS #67762-77-0). If it is determined that there is a lack of adequate information, this substance will be tested to develop hydrolytic rate data. If sufficient information is available in the general literature, it will be provided in the form of a robust summary.
- Photodegradation - The chemical structure of category members will be evaluated to determine whether there is a potential for direct photodegradation. Data will also be developed to characterize indirect photodegradation for category members using the AOP model in EPIWIN. Information or data for both routes of degradation will be provided in robust summaries.
- Fugacity modeling - Environmental partitioning data for members of this category will be calculated using a Mackay Level I equilibrium partitioning model and provided in robust summaries.
- Mutagenicity - *In vitro* chromosome aberration study will be conducted on the polyisobutylene succinic anhydride (CAS #67762-77-0). Results will be bridged to the other member of the category.
- Repeated-dose toxicity - A technical discussion document is proposed to address repeated-dose toxicity of members of the category based on read-across from test results of the structurally similar, *tetrapropenyl butanedioic acid* (CAS # 27859-58-1).
- Reproductive/developmental toxicity - A technical discussion document is proposed to address reproductive/developmental toxicity of members of the category based on read-across from test results of the structurally similar, *tetrapropenyl butanedioic acid* (CAS # 27859-58-1).

Thank you in advance for your attention to this matter. If you have any questions regarding the test plan report or the robust summaries, or HERTG's activities associated with the Challenge Program, please contact Sarah McLallen at 703-741-5607 (telephone), 703-741-6091 (telefax) or Sarah\_McLallen@americanchemistry.com (e-mail).

Sincerely yours,

Courtney M. Price  
Vice President, CHEMSTAR

cc: HERTG members